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Shipping U.S. Livestock and Meat Exports

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In this issue:

This week's cover:

Young Holsteins enter the barn-like interior of a jet outfitted for shipment of live animals to foreign markets. The article opposite—based on proceedings of an FAS-sponsored seminar—takes a look at progress and problems in shipping livestock and meat.

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Seminar Tackles Problems In Shipping Livestock, Meat

VOICING interests ranging from the humane treatment of live animals to worry over high freight rates, members of the U.S. livestock and transportation industries met in Houston, Texas, in May for a 2-day livestock and meat transportation seminar.

The May 13-14 meeting, sponsored jointly by USDA's Foreign Agricultural Service and the Texas Department of Agriculture, was the fourth in a series of transportation seminars cosponsored by FAS. The others included one in Beltsville, Maryland, October 7-8, 1975; San Francisco, January 21, 1975; and Chicago, June 20, 1974.

"The series has been so successful," says Tom Poerstel of FAS, coordinator of the seminars, "that we have already begun planning for future seminars under FAS sponsorship."

Around 150 delegates attended the Houston seminar, including U.S. livestock producers, exporters, and trade officials plus representatives of aircraft manufacturers, air and ocean carriers, ground handlers, freight forwarders, bankers, freight insurers, humane societies, research and health institutions, regulatory agencies, and the foreign trade.

Representing the U.S. Department of Agriculture at the meeting were officials from FAS, the Agricultural Research Service (ARS), and the Animal and Plant Health Inspection Service (APHIS).

Among the participants' major concerns were the need for improved standards and technology in shipping livestock and meat; today's high freight rates, which one speaker said sometime exceed the cost of products exported; rules and regulations that hamstring exporters while turning foreign buyers to the products of U.S. competitors; and whether foreign demand will grow enough to justify modernization and enlargement of air and ocean carriers.

Indirectly answering the latter question, Robert Mannion, International Marketing Director of the Livestock and Meat Products Division, FAS, said that U.S. exports of livestock and livestock products are projected to increase fro $1.5 billion in fiscal 1975 to $1.6 billio in fiscal 1976 and $1.95 billion the fo lowing year. (These figures include liv animals, red meats, variety meat tallow, lard, and hides and skins bu exclude leather products, which accour for another $200 million worth of ex port trade.)

Some of the other questions will b taken up by a new trade associatior the Animal Air Transportation Associa tion (AATA), formed during the sem inar. A nonprofit educational organiza tion, the AATA is intended to improv communications among trade member and encourage research into the safe humane, and efficient transportation o live animals on aircraft.

The association elected a slate o officers at the seminar and announcec that its first program may be held during September 1976 on the West Coast.

The first day of the seminar focusec on shipping of live animals and on air shipments in particular, since they now account for 80-90 percent of all U.S. livestock exports outside North America. Program speakers included representatives from the cattle industry, the Civil Aeronautics Board (CAB), a major aircraft manufacturer, a freight insurer, a freight forwarder, two airlines, APHIS, and ARS.

THE SECOND session took a look at U.S. meat trade and the role of ocean carriers in that trade. Speakers included the representative of a beef processor, an official of the Federal Maritime Commission, APHIS and ARS officials involved in meat products inspection and research, and the representative of an ocean carrier that handles meat exports.

The seminar ended with a trip to Houston International Airport for a look at the Texas Department of Agriculture's livestock export facility where the group was welcomed by Texas Commissioner of Agriculture John C. White.

Ben Baisdon, Director of Marketing for the Texas Department of Agriculture, led off the seminar with a welcoming speech noting the importance of

griculture—and livestock in particular —to the U.S. economy. U.S. agricultural production is eight times that of he auto industries combined, said Baisdon, and transportation is the backone of agriculture.

J. D. Sartwelle, keynote speaker and President of the Port City Stockyards, Houston, Texas, traced the history of air shipments of live animals since the pioneering days of the 1940's, when cattle were crated and put aboard small propeller planes for short, often risky hops to nearby Latin American markets.

Sartwelle also stressed the quality aspect of U.S. livestock and meat trade. U.S. live cattle exports last year amounted to only 196,000 head, against 389,000 head in imports. But their value figures were reversed by the low cost of the mainly feeder cattle imports, approximately $210 a head, as opposed to returns of about $400 a head for cattle exports and about $1,000 a head for the quality breeding animals, included in the total.

Turning to U.S. trade in beef, Sartwelle called U.S. Choice beef the "sleeping giant" of U.S. livestock and livestock products trade. He said that the few tests in overseas markets made by USDA and the National Livestock and Meat Board show electrifying results and that market development work under the recently signed cooperative agreement between FAS and the U.S. Meat Export Federation could "open a broad new vista of export sales not even dreamed of today."

Some major points brought out in the other speeches included—

- U.S. shippers and air carriers who criticize rules and regulations of the Civil Aeronautics Board should learn how to talk to the Government, documenting what they like and do not like.
- Aircraft manufacturers are now adapting the supersize (DC-10 and 747) air carriers for shipment of live animals. According to an industry spokesman, these planes when fully loaded will have much lower operating costs than the smaller DC-8's now generally used.

To ensure the safe and humane treatment of animals, the aircraft manufacturers and ARS—have done extensive research into heat, moisture, and carbon dioxide tolerances of the animals and the consequences of failure of aircraft ventilation systems.

- Insurers of livestock exports will

Top to bottom: Delegates to the Live Animal and Meat Export Transportation Seminar look at a portable livestock loading chute on display at the Texas Department of Agriculture's livestock export facility at the Houston airport. Holstein cattle are loaded from truck into a "stretched" DC-8 for their trip to a foreign market. A closer look at the Holsteins as they move up the chute and into the plane.

Seminar participants examine a palletized pen (above) at the Texas Department of Agriculture's export facility, and (right) straps and meat hooks of a container used to ship U.S. beef.

need to know a wide variety of information about the proposed shipment, including value of animals, background of supplier, type of transport used to embarkation point, and names of all parties involved. They will also want to have copies of all accompanying documents. In selecting a policy, a shipper should look for all-important policy differences—such as insurance that is good for 30 days after landing as opposed to that good for 30 days after arrival at final destination—and likewise be aware that the cheapest policy is not always the best.

Among the most frequent livestock insurance claims are those related to inadequate ventilation, overcrowding, and delays in loading or unloading.

• U.S. producers of purebred cattle have had some impressive results in the foreign market. One cattle producer said that of the nearly 12,500 head of his Brahman cattle sold since 1955 53 percent have moved to foreign buyers, with export prices averaging about 18 percent more than domestic sales. Such trade also often has a ripple effect since foreign buyers visiting this country to select animals invariably purchase other U.S. products.

This speaker cautioned, however, against letting an excess of rules and regulations—and rising shipping costs—strangle the livestock export trade. "We've got a product that a great portion of the world wants and needs," he said, "let's put the emphasis on getting the job done, rather than on rules, regulations, and requirements."

• In selecting a freight forwarder—an agent who handles documentation and logistics of livestock exports—the producer should make certain the forwarder is familiar with livestock exporting. This agent will assist with information on health tests and other requirements, arrange for transportation and use of quarantine station facilities, make sure identification is right, and help prepare the needed documents.

• Shipping live animals has become big business for the air carriers in recent years, but the going has not always been easy. When it first got into the business, one airline ran into several problems including some Rambouillet bucks that reduced a 4-by-8 foot plywood penning system to a pile of lumber. Such experiences, however, laid the basis for major improvements.

THIS PARTICULAR aircraft now has a lightweight (2,500 lb) interior penning system that can be altered for sideways penning and double decking and a ventilation system that directs air to the interior of the plane where ventilation is normally the poorest.

A complaint of this carrier—and indeed a major problem for all those involved in air shipping of livestock—is the lack of adequate transportation facilities and knowledge about handling animals in many of the destination countries. Better ramps, pens, trucks, and advance preparation are needed in the foreign markets if the innovations in U.S. shipping techniques are to pay off. One example of the problems encountered overseas is the common use of low-sideboard trucks from which excited animals can easily escape.

• Another airline representative told how his company modified the basic igloo container system, first to carry small animals and then to accommodate dairy cattle in a barnlike atmosphere and is now working on new systems to go into the jumbo jets. These latter planes are big enough to allow use of conventional-size containers, making it possible to link up with the extensive container trucking system and to carry various types of cargo on one flight. They also provide good ventilation systems, better access to the animals, and lower per-unit prices on full flights. The question remains, however, whether the 225 (1,000 lb) animals needed for a full flight can be effectively assembled.

• Animal health is of extreme importance in ensuring not only repeat sales but also entry into foreign countries, many of which have rigid animal health requirements.

As a result, animals must be submitted to a series of health checks and quarantine periods prior to shipment from this country.

Information on tests and examinations required by foreign countries is published in USDA by APHIS and export health certificates must be endorsed by APHIS veterinarians before shipment can be made. Among the APHIS functions are performance of blood tests, preparation of the health certificates, and ensuring that the trucks used for livestock shipments are disinfected and animals treated humanely.

• With the goal of improving shipping conditions of live animals, ARS has been observing and testing animals from the time they are purchased until they have reached their ultimate overseas destination. These tests have included monitoring of animals during air shipment, using special gages to measure relative humidity, air flow into different pens, and other conditions. In addition, ARS laboratory tests are helping determine what factors cause stress and sickness in animals.

Getting perishables like meat from warehouses to port of exit can pose costly problems for exporters, and railroads have contributed to the tangle as a result of cargo mixups and delays en route or in railyards.

• A representative of the Federal Maritime Commission, one of the Government regulatory agencies, urged exporters with rate problems to bring these problems forward and be prepared to substantiate their claims that "rates are too high."

A POTENTIALLY effective way of doing this is through shippers councils, which could be organized under the broad provisions of the Webb-Pomerene Act of 1918—a law that exempts businesses operating under it from provisions of antitrust laws in order to facilitate the movement of U.S. goods to foreign countries. One of the most successful councils, the Australian Meat Board, successfully fought a 10 percent rate hike passed by the Australian shipping conference. In the United States, the American Importers' Association currently is taking the lead in designing legislation for shippers councils.

The same speaker cautioned that regulation, banking, and insurance processes have not kept pace with technological advances in containerization and other shipping methods. He said that there should be a single rate factor from any point in the United States to any point in the world and that work needs to be continued on document simplification, as opposed to the plethora of papers now required.

• To test the condition in which U.S. meat reaches foreign markets and develop ways of improving shipping techniques, Government and industry research groups have been monitoring some overseas shipments of U.S. meat. Researchers from Texas A&M University, for instance, followed shipments of beef from the factory, to port, to three markets—Yokohama, Hawaii, and Anchorage—and into the retail outlet to determine the quality of the resulting products.

They then evaluated weight loss due to shrinkage and trimmage plus deterioration as measured by loss of color, loss of freshness, and bacterical growth. They also compared refrigeration and meat packaging systems, concluding that vacuum packaging and use of edible coating are far superior to conventional packaging systems.

• Use of advanced technology has made it possible to ship beef to foreign markets without loss of quality. One shipping representative reported that beef protected with a special "PBC" film and stockingette wrapping, boxed in wax-saturated containers, and transported in controlled-atmosphere storage will show virtually no shrinkage, increase in bacteria count (in some cases there is actually a decrease), or discoloration.

Within the past 3 years, new meat refrigeration units have been introduced that allow transport of "swinging beef" —beef carcasses suspended on disposable straps from permanent meat hooks. The straps keep the meat from coming in contact with the aluminum hooks, thus cutting down on bacteria and cleaning problems. The hooks can be swung out of the way to allow use of the container for other types of cargo.

• Animal health and meat inspection requirements—now imposed by most trading nations of the world—have in some cases become formidable barriers to U.S. meat exports. Over the last few years, for instance, U.S. Prime beef has been all but shut out of European Community nations because of EC inspection requirements based on procedures and conditions quite different from those in the United States.

A breakthrough in this area came recently when—after travel to the EC to study meat preparation and work with USDA officials to develop procedures acceptable in the EC—several U.S. slaughterhouses were certified to export beef to West Germany.

In a summary statement, Dale Anderson of the Agricultural Research Service said that U.S. agriculture so far has been most successful in exporting less labor-intensive products or those of exceptional quality. In the future, however, beef could be a viable alternative to grain exports. But to accomplish this, meat producers must be committed to staying in the export business, servicing their foreign customers, and promoting overseas. —BEVERLY J. HORSLEY

Drought Hits Cattle in South Australia

Australia's beef and dairy industries in southwestern and southeastern parts of the State of Victoria are being severely affected by drought.

As of early May, dairy farmers had already destroyed 41,000 head of dairy cattle to deal with insufficient feed supplies due to drought, and industry spokesmen were predicting the total might reach as much as 200,000 head.

With slaughter rates already at a high level, the market value of drought-stricken cattle reportedly has dropped to zero in Victoria.

Since most of the dairy cows culled from the drought-stricken herds in Victoria will be destroyed, and slaughter plants were already operating near capacity, this situation will not result in any significant increase in supplies of beef for export.

To aid dairy farmers hit by drought, the Australian Government on May 12 finalized plans for short-term assistance to the depressed dairy industry. A price guarantee to milk producers scaled to A$300 (US$372) per metric ton for nonfat dry milk is being resumed. This is in addition to an A$2-million supplement to the existing A$1.5-million dairy allocation under the rural reconstruction scheme as an aid to farmers.

While the short-term emergency aid will alleviate problems arising from herd culling, it will not solve the current dairy crisis. The real solution lies in correcting the imbalance between supply and demand. In the nonfat dry milk sector, where the biggest problem lies, no short-term market recovery is in sight. Estimated stocks of nonfat dry milk at the end of this year (June 30) are 110,000 metric tons, up 93 percent from 57,000 tons last year. However, the situation in Australia is not as critical as that in other countries or regions such as New Zealand, Canada, and the European Community.

Sorghum Production Gains Favor With French Farmers

GRAIN SORGHUM, a relative newcomer to France, has made a niche for itself in that country's grain-producing pattern.

Sorghum was introduced in the mid-1950's in southwestern France—a traditional corn-raising area. Readily adaptable to warm, dry areas, sorghum has moved into the poorer corn producing parts of that area.

Sorghum's progress was modest in the first decade. Production was first reported in 1955—4,900 metric tons on 3,000 hectares—and reached a high of 311,000 tons in 1975, up from 293,000 in 1974. Following fitful progress, 1975 marks the first year that the French sorghum harvest exceeded that of rye. France produced 300,000 tons of rye last year.

Rye production has, to be sure, been declining in traditional growing areas, including France. However, quite independent of the fortunes of rye, it is apparent that sorghum is now an established French grain crop.

Some dozen Departments in the French southwest—where 80 percent of the sown area is located—now grow grain sorghum, the principal concentration being in Haute-Garonne.

By 1962, French sorghum area had increased to 10,000 hectares. In 1963, it doubled to 20,000 hectares and then continued to expand. Area hit 64,000 hectares in 1967. But that was a season of poor yields and, partly as a result, area settled to about 55,000 hectares for several years. In 1972, area jumped to 80,000 hectares and it reached a new high in 1975 of 86,000 hectares.

Progress in French sorghum production is marked particularly by an improvement in yields. Averaging 26.5 quintals per hectare, 1960-64, yields increased to 40 quintals per hectare in 1970-74—a 50 percent gain. The high point—43.7 quintals—was reached in 1973. Yield was off in 1975 (as was the case with other grains) to 36.2 quintals per hectare.

The French have relied largely on the United States for selected sorghum seed varieties and management know-how in the development of the domestic sorghum industry.

Shorghum is a short-season, distinctly summer crop. While it will grow under more precarious conditions than corn, it requires a good seedbed and a minimum of moisture to insure germination.

Irrigation introduced in some parts of southwestern France has had good response in sorghum yields. However, in some of these situations, corn has again taken over, since with plentiful moisture corn can outyield sorghum.

Sorghum has, however, provided its own *raison d'etre*. Its unique characteristics have been the basis for its growing importance in France. Its success contrasts with attempts by farmers in the United Kingdom to raise corn (maize) for grain over the last decade, with production still not large enough to warrant official reporting.

The market for sorghum in France has been limited by supply, although sorghum sales have expanded with recent increases in production. Domestically, most sorghum is consumed in its production area. It is used mainly in the manufacture of mixed feeds, competing in price with corn and feed wheat.

About half of the French sorghum crop is exported. In the 1970/71 marketing year, when there was a relatively high restitution (subsidy) on exports, and a low threshold price applicable to imports, sorghum was sold to Spain and Switzerland, natural export markets in the area. However, the next year, with a lower restitution rate and the threshold price raised to a level near that of corn, sorghum exports were directed to markets within the European Community.

Sorghum produced in the EC does not have a support or intervention price, as do other grains. It does, however—along with other grains—have a threshold price providing protection against sorghum producers outside the EC.

Belgium has been the principal destination for sorghum within the EC, although freight costs for the long haul are a definite disadvantage. This has been alleviated by developing a system of concentrating supplies and shipping by "complete" unit trains.

Sorghum producers would like what they consider to be a more attractive restitution rate, set early in the season, so that they could export more profitab and flexibly to nearby countries.

In 1974/75, from a French sorghu crop of 293,000 tons—46 perce (135,000 tons)—was exported. Eight four percent of total exports went other EC countries. Belgium receive 46,251 tons; Ireland, 38,343; the Unite Kingdom, 25,874; and the Netherland 264. Switzerland took 3,932 tons an Spain only 202 tons. The remainin 17,412 tons went to African countrie Niger took 10,000 tons; Chad, 2,99 tons; Rwanda, 2,500 tons; and Gambi 1,915 tons.

—By ANSEL S. WOOD, FA

Canadian Egg Pact Up for Renewal in June

The 1975 Canadian Egg Market ing Agency (CEMA) Agreement wil be replaced after June 30, 1976, by new pact that is expected to se higher egg production quotas. But de spite the new limitations, U.S. eg sales to Canada—although subject t import restrictions—are expected t continue, provided their importatio remains with the private trade.

Canadian importers and broker consider price to be the main deter minant when buying eggs. On the average, Canadian egg-price formulas—with their cost production allowances and "locked-in" profit margins—should enable private interests t import U.S. eggs at competitive prices.

Purpose of the 1975 accord now being replaced was to achieve a centralized national egg marketing agency and to provide a uniform supply management plan among the Provincial egg marketing boards. However, since ratification of the pacts, CEMA has continued to experience egg management problems.

These were notably reflected in a 6-month domestic egg supply estimate (October 1975-March 1976) that fell far short of market demand. In consequence, CEMA had to notify the Canadian Department of Industry, Trade and Commerce that additional egg imports would be needed.

Provincial egg boards have become

U.S.-Polish Teams Talk Trade

Poland announced, during the third meeting of the U.S.-Polish Joint Working Group on Development of Agricultural Trade in late April, its intention to import between 2.2 million and 2.5 million tons of U.S. grain in calendar 1976. Poland also requested $200 million in Commodity Credit Corporation credit for fiscal 1977 and expressed an interest in exporting more cheese to the United States.

The Working Group was established by the Joint Statement on the Development of Agricultural Trade signed by U.S. Agriculture Secretary Earl L. Butz and the Polish Minister of Agriculture on October 8, 1974. The Joint Statement recognizes the desire of both countries to liberalize and expand agricultural trade and cooperation for their mutual benefit. The aim of the working group is to identify problems and reach understandings to facilitate the stabilization and continued growth of agricultural trade between the two countries.

The delegations to this third meeting were headed by Dr. Eugeniusz Mazurkiewicz, Poland's First Deputy Minister of Agriculture, and Richard Bell, U.S. Assistant Secretary of Agriculture for International Affairs and Commodity Programs.

In announcing Poland's grain import intentions Minister Mazurkiewicz reaffirmed the principles set forth in the Joint Statement and in the exchange of letters between Poland's Minister of Agriculture Barcikowski and Agriculture Secretary Earl L. Butz, signed on November 27, 1975.

U.S. agricultural exports to Poland have grown from $82 million in 1972 to almost $368 million in 1975, pushing the U.S. agricultural trade surplus with Poland in the latter year to about $250 million.

U.S. exports to Poland are made up primarily of corn, wheat, soybeans, and soybean oil, cake, and meal products. Wheat exports jumped from $8.5 million in 1972 to over $65 million in 1975, but corn exports experienced the largest rise of all the agricultural products shipped to Poland, increasing from $13.5 million in 1974 to $142.5 million in 1975.

A substantial part of U.S. agricultural exports to Poland and other countries is financed by export credits from the Commodity Credit Corporation. Poland has utilized the CCC Export Credit Sales Program since 1962, financing an accumulated farm-product total of $293.5 million and ranking fourth among countries in terms of dollar volumes under the program.

For the 1976 fiscal year Poland had requested a CCC-credit total of $205 million; and $162.4 million has been approved for financing export sales of feedgrains ($40 million), tallow ($4 million), wheat ($40 million), tobacco ($3.9 million), rice ($5 million), soybeans ($11 million), soybean meal ($46 million), soy protein ($3 million), and cotton ($10 million).

In addition to grains, the $200-million CCC credit request for fiscal 1977 includes $4 million for tobacco and $5 million for tallow. The Poles also indicated an interest in citrus fruit, should it become eligible under the CCC credit program.

Further progress was made by the two countries in exchanging economic data. Since the first working group meeting

Continued on page 12

increasingly dissatisfied with the production quotas issued by CEMA in 1975. As a result, it is believed that the new national agreement—expected to take effect July 1, 1976, and run for 2 years—will allow the Provinces larger quotas.

Under the present system, producers are limited in the number of hens they can have and have avoided penalties for exceeding the hen limitation by holding output to a level lower than allowed. As a result, some Provinces produced fewer eggs than permitted by their quotas and national production fell short. To allow for this contingency, the new pact is expected to allow CEMA to issue Provincial quotas that collectively would add up to 105 percent of the national quota.

Preliminary data from Statistics Canada show egg production during January-March 1976 to be about 10 percent less than first quarter output in 1975; however, egg grading stations report a drop of only 2.7 percent in eggs graded.

Full-year egg production in 1975 was estimated by Statistics Canada at 446 million dozen.

The expected increase in Provincial egg production probably will cause national output to show gradual month-to-month increases during the rest of 1976. However, it is likely that total 1976 production still will be lower than that of 1975.

The hen quotas issued by the Provincial egg boards, plus the severe penalties for overquota birds, have caused the Canadian laying flock to decrease by 8.5 percent from 25.7 million in January 1975 to 23.5 million in January 1976. Greater fowl slaughter will result in a much younger flock during 1976 and an increase in the rate of lay is expected.

Broiler chicken output in January-March 1976 is more than 18 percent higher than in the first quarter a year earlier—146.0 million pounds in 1976, compared with 123.5 million pounds in 1975. Total 1975 broiler marketing was 551.5 million pounds.

Placements of broiler chicks are expected to remain strong until about midyear. Year-to-year increases in total young chicken output are expected to reach at least 6 percent.

Imports from the United States of whole-carcass chickens have averaged nearly 500,000 pounds per week in 1976. More than 13 million pounds of whole-carcass chicken were imported from the United States in 1975.

Canada's heavy hen production was the only turkey category to rise during the first quarter of 1976.

Broiler production remained the same, but heavy tom production fell by nearly 35 percent in the January-March period of 1976.

The Canadian Turkey Marketing Agency has set the national production quota at 199.2 million pounds. The production figure is the basis for turkey import-quota levels. As was the case with eggs, supplementary imports were required in 1975 to meet the demand for turkeys, particularly heavy birds.

—Based on report from
Office of U.S. Agricultural Attaché, Ottawa

Soviet Hard-Currency Trade Deficits Seen Escalating

By JUDITH G. GOLDICH
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THE USSR is learning to live in the 1970's with large balance-of-trade deficits.

The estimated $4.7 billion hard-currency balance-of-trade deficit incurred during 1975 resulted from Soviet imports from hard-currency countries[1] of about $12.8 billion and exports to these nations of $8.1 billion.

In 1974, such imports were valued at $8.5 billion and exports at $7.6 billion, and in 1973 the respective totals were $6.6 billion and $4.8 billion.

The Soviets reported that their first-quarter 1976 balance-of-payments deficit with the industrially developed countries reached $1.7 billion.

The Soviets traditionally have had balance of trade deficits with the hard-currency countries, but the size of the annual deficits has grown since 1971.

The 1975 deficit came as a result of continuing large nonagricultural purchases and grain imports.

Purchases of large-diameter pipe, special steel for construction of the Baykal-Amur railroad across Siberia, and other industrial products remained large in 1975.

Costs for grain imported from the West as a result of the disastrous 1975 Soviet grain harvest rose, with hard-currency outlays during 1975 for grain —primarily from the United States— probably totaling about $1.8 billion.

The hard-currency trade deficit presented only limited financing problems for the Soviets in 1975, as they were able to draw down their Eurocurrency holdings in Western Europe, arrange for several new loans, and use previously extended credits to make payments.

However, the hard-currency balance-of-trade deficit will persist in 1976 and probably well into the future. Strengthening of the world economic situation probably will enable the Soviets to increase their hard-currency earnings, and improved harvests could allow decreases in agricultural purchases. However, perhaps as a reflection of growing consumption needs—especially for feed—the USSR apparently is planning to continue rather large imports of wheat and corn each year for at least the next 5 years.

Continuing deficits in trade with hard-currency nations may pose increasingly difficult financing problems. The Soviet Union historically has viewed international trade as a pay-as-you-go proposition, trying to earn sufficient foreign exchange from exports to pay for its purchases.

Exports of raw and semifinished products to the West, including petroleum and products, diamonds, platinum and platinum-group metals, and some other products such as timber, account for most hard-currency earnings.

Sales of these products have not been sufficient to pay for the desired quantities of imports, however, and the USSR has had to turn in a number of directions to balance the resulting trade deficits.

USSR HARD-CURRENCY TRADE BALANCES, 1971-75
[In million dollars]

Year	Exports	Imports	Balance
1971	2,652	2,955	— 303
1972	2,815	4,171	—1,356
1973	4,818	6,566	—1,748
1974	7,630	8,541	— 912
1975 estimate	8,100	12,800	—4,700

The Soviets have relied on the sale nonmonetary gold to finance their del in the past. The price of gold dropp steadily during 1975 with the Interr tional Monetary Fund's announceme in September that it intended to sell holdings, thus limiting the possible i come from gold sales. Nevertheless, it now believed that the Soviets so around $1 billion worth of gold duri 1975.

The Soviet Government also turn to various Western banks for loans du ing 1975. For example, Soviet banke arranged for a $260-million loan fro a 13-bank consortium led by the Cor pagnie Financiere de la Deutsche Ban AG, during 1975. This particular tran action is tied to the construction of natural gas pipeline between Orenbu and the Czechoslovak border.

Other borrowings that are not tie to specific projects in the Eurocurrenc market were believed used to financ the grain purchases. Because of the scrupulous repayment record, the So viets are considered excellent credi risks, and have been able to borrov at very favorable terms. However, thes rates most likely will grow less favorabl as the magnitude of the debt increases

The USSR has turned increasingly t medium- and long-term credits t

ESTIMATED SOVIET GOLD SALES, VOLUME AND VALUE, 1971-75

Year	Value	Volume[1]
	Mil. dol.	*Tons*
1971	(2)	(2)
1972	250-350	150
1973	1,000	[3]350
1974	750	[4]150
1975[5]	1,000	200

[1] Rounded to nearest 10 tons. [2] Negligible or none. [3] Calculated at average value of $88.87 per ounce. [4] Calculated at average value of $159.14 per ounce. [5] Estimated.

ESTIMATED DRAWINGS AND SCHEDULED REPAYMENTS ON MEDIUM- AND LONG-TERM CREDITS

Year	Drawings	Scheduled repayments[1]	Net credit	Outstanding debt[2]	Debt service ratio[3]
	Mil. dol.	*Mil. dol.*	*Mil. dol.*	*Mil. dol.*	*Percent*
1971	682	477	205	2,029	18
1972	[4]1,030	573	457	2,608	20
1973	[4]1,695	815	880	3,645	17
1974	1,710	1,110	600	4,465	15
1975[5]	3,700-4,700	1,500	2,200-3,200	7,000-8,000	19

[1] Principal and interest. [2] At end of year. [3] Scheduled repayments of principal and interest as a percent of hard-currency exports. [4] Including drawings on 3-year Commodity Credit Corporation credits. [5] Estimated.

[1] **Approximately 60 countries with which the USSR has agreed to settle trade imbalances in freely convertible currencies.**

inance industrial purchases. These credits are generally subsidized by the would-be seller nation's government, have favorable repayment terms, and may or may not be tied to the purchase of specific items.

For example, in 1975, the United Kingdom arranged a £950-million open credit to the Soviets. Part of the credit reportedly will be used to finance chemical purchases from the United Kingdom during 1976.

Other credits, such as the Japanese Export-Import Bank and Tokyo city bank offerings, are tied to specific projects. The Japanese credits, for example, are tied to a natural gas exploration and development project in Soviet Yakutia and to the purchase of ammonia-producing facilities.

The Soviet debt service ratio—the ratio of scheduled repayments of hard-currency principal and interest to the value of exports to hard-currency countries—rose 15 percent in 1974 to an estimated 19 percent in 1975 because of increased drawings on the available credits.

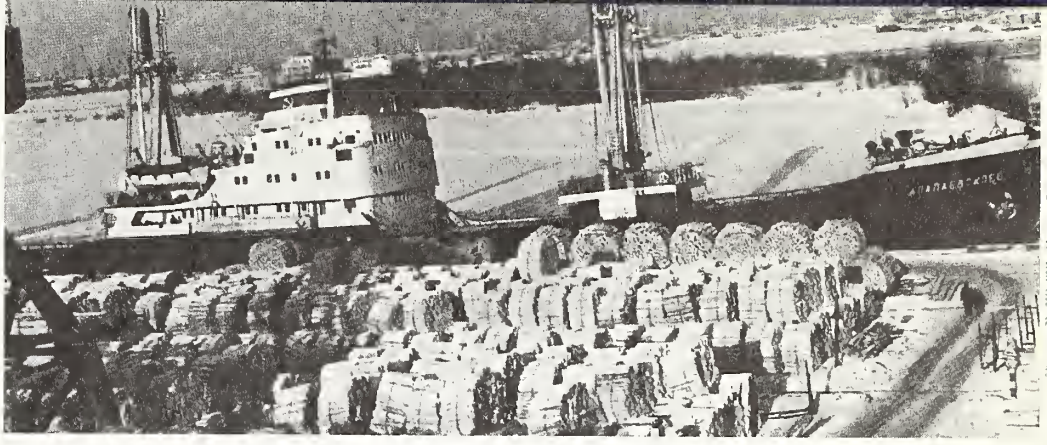
Continuing large debts may affect the USSR's ability to borrow in the future by raising questions concerning both credit worthiness and ability to repay, although this is not a serious problem at present.

In part to help finance development projects without incurring such heavy financial obligations, the Soviets are turning to product-payback arrangements, under which a vendor or his bank extends credit for purchase of a product—usually machinery, a plant, or technological aid.

After completion of the project, the Soviets pay off the debt by delivering products from the project to their creditors. For example, a French firm will supply equipment for ammonia-manufacturing plants to be built in the USSR. When the plants become operational—now seen for 1978—delivery of ammonia in repayment for the credit will begin.

Several such agreements, including one for Soviet purchases of large-diameter pipe, to be paid for with deliveries of natural gas, are in effect.

As the USSR foresees continued large nongrain imports from the West and since its earning capacity will remain limited in the near term, such arrangements may represent one way to continue imports without gaining increasingly large hard-currency obligations.



The Soviet Union exports wood and wood products to more than 70 countries.

Tanker at a USSR seaport loading petroleum products for export.

USSR Trade Rose Significantly in 1975

Total Soviet trade turnover—the value of all exports and imports—reached 50.7 billion rubles in 1975, 28 percent more than in 1974, according to the USSR economic publication, *Ekonomicheskaya Gazeta,* No. 19/1976. The average value of the ruble in 1975 was officially $1.39.

The centrally planned countries (including Bulgaria, Hungary, German Democratic Republic, Cuba, Mongolia, Poland, Romania, Czechoslovakia, Democratic Republic of Vietnam, People's Republic of China, North Korea, and Yugoslavia) accounted for more than 56 percent of the total trade turnover.

The industrially developed countries (primarily the United States, Austria, Belgium, United Kingdom, Italy, Canada, Netherlands, Finland, France, Switzerland, and Japan) accounted for 31 percent, and the developing countries (primarily Algeria, Afghanistan, Brazil, Egypt, India, Iraq, Iran, Malaysia, Syria, and Turkey) accounted for over 12 percent.

Soviet imports increased by more than a third, largely because of grain purchases that followed the worst grain harvest in a decade.

In contrast, exports increased by only a tenth, leaving the Soviets with an overall balance-of-trade deficit with developed countries—most of which demand settlement of imbalances in hard currency—of nearly $5 billion.

The trade deficit with the United States for agricultural products alone reached nearly $1.2 billion. In terms of trade turnover, the United States ranked tenth among all Soviet trading partners, and fourth among the industrially developed countries.

Ecuador Stresses Irrigation In Plans To Up Farm Output

By FRANCISCO SERRANO
Office of the U.S. Agricultural Attaché, Quito

ASIDE FROM its oil wealth, Ecuador is essentially an agricultural country, vulnerable to the vagaries of weather and an unpredictable world market. But, unlike most other such nations, Ecuador has the means to do something about its agricultural problems, undertaking—among other things—some ambitious irrigation projects in the Guayas River Basin north to northeast of Guayaquil, where almost 37 of every 100 Ecuadoreans live.

Nearly 750,000 acres and a great deal of time and money are involved in the projects, which were launched in December 1965 with formation of a study Commission for the Development of the Guayas River Basin (CEDEGE). The International Development Bank (IDB) subsequently loaned Ecuador Can$1.26 million to partially finance preliminary studies, which were begun in 1967 and completed in 1970.

A related Government institution, created in November 1968, is the Ecuadorean Institute of Hydraulic Resources (INERHI), which has charge of water administration and control in the country, as well as development of irrigation projects.

CEDEGE projects. Focal point of CEDEGE activities is the Guayas River Basin, which is potentially the richest agricultural area in the country. But along with the promise are some worrisome social and economic problems. These include an archaic system of land tenure in which the problems of the minifundium and the latifundium still exist; high dependence on a few export drops; a stil-primitive marketing system; malnutrition and substandard sanitary conditions; periodic flooding followed by dry spells; and a very low level of agricultural technology.

Of the nearly 7 million acres of tillable land in the Basin, less than 5 million are farmed. And only about a third of the land is used for crops. Dominating the acreage are bananas; rice; and cocoa, coffee, fruit, and other tree crops. Approximately 390,000 acres are already under irrigation, while a half million each year suffer the consequences of uncontrolled flooding.

It is believed that under controlled conditions, nearly all of this area could ultimately be placed in crop and livestock production.

Among the specific projects:

• Guayas Project (Daule-Peripa), is the largest single CEDEGE undertaking, with some 500,000 acres of rich agricultural land between the Daule, Macul Pula, Vinces, and Babahoyo Rivers. Here, a 65-meter-high dam, capable of holding 2 million cubic meters of water, will be built, with the aim of irrigating an extensive area and controlling the floods that periodically ravage crops. Indeed, it has been estimated that Daule River overflows cause annual losses ranging from US $8.8 million to $22.5 million. These losses include $6.4-$16.4 million in areas under irrigation but lacking adequate flood control.

In addition to the main dam, a channel will be built to carry part of the water to the Macul River and then to the Vinces River. A second dam and a related system of major and secondary channels will also be built. This dam will irrigate the region's southern area between the Daule and Babahoyo Rivers.

BESIDES controlling flooding and expanding cultivated area, the project aims at major gains in agricultural yields and production methods. Studies will determine the best crop for each area; multicropping will be practiced more extensively, especially for the dominant crop, rice; rice yields per acre will increase—the goal is 48.5 hundredweight of rice per year (from two crops) compared with 10.9 currently; and the land tenure system will be changed to benefit small farmers.

• In the Babahoyo area, CEDEGE plans to place 27,200 acres of unde utilized land in rice production, usi water from the Cristal and Emba cadero Rivers, which pass near t city of Babahoyo. Included in t project are 35 miles of main channe and 63 miles of secondary channel Nearly 100 miles of roadways will b built to give access for maintenanc purposes, to the farms and to th channels.

Here again, most of the project goal center around rice. Production of thi crop is slated to grow to 89,000 metri tons a year from 8,000 currently as result of yield increases, the planting o two crops a year, and expansion int areas now in natural pastures or unused Percentage of area irrigated is to ris to 100 percent from the current 10 per cent, while value of production leap to a projected $3.5 million annuall from $280,000 currently.

• The Caracol Project, still in the prefeasibility study stage, contemplate the irrigation of 20,300 acres east o the Catarama River, supported by technical and financial assistance to the entire 30,000-mile area. Main and secondary channels and a system of internal roads are to be built at an initial investment of $4.3 million. Annual returns are estimated to rise to $1.7 million, from several times this current level. Emphasis will be on rice, which now accounts for about half the area, and cocoa, currently the second most important crop.

• The San Juan Project, also in the prefeasibility stage, revolves around irrigation of nearly 11,000 acres, with technical and financial assistance to some 14,300 additional acres, at an initial investment of $2.6 million. Undoubtedly, studies will propose the phasing out of lower-quality bananas, which now account for almost 40 percent of the cultivated area, in favor of more remunerative crops.

• The Montalvo-Ventanas Project is also in the early study phase, but, unlike the others, will not emphasize irrigation to which an irregular topography makes it ill-suited. Instead, the project will focus on financial assistance to farmers in a 94,000-acre area, with stress on coffee and cocoa. It involves an investment of $1.6 million during the first 3 years and aims at boosting net annual profits of the region to $584,000.

CEDEGE plans numerous other projects. These include: an agricultural diversification and technical and finan-

Clockwise from left: A harvester operated by CEDEGE personnel performs farm work for a number of Ecuadorean farmers' groups; an Ecudorean farm boy on his pack animal transports foodstuffs for his family; farmers who will benefit from Babahoyo Irrigation Project get instructions from an agricultural technician.

cial assistance program for the Quevedo-Santo Domingo area; a ground-water utilization project for the southern areas; hydroelectric projects in Angamarca, Pinanatus, Chimba, and Pilalo; flood control for many areas; a forestry project in the north; and "fishpond" projects.

INERHI projects. Last year witnessed many achievements for INERHI, and its efforts have been further expanded during 1975.

INERHI has at least four major projects underway:

- The Montufar Project is a multipurpose project of irrigation, agricultural development, and hydroelectric generation. Located in the southern part of the Carchi Province, it will irrigate 10,000 acres through a complex system of channels. Engineering work for this project should be completed within a few months.
- The Pisque Project, located along the Andes Mountains at altitudes ranging from 7,218 to 8,858 feet, will irrigate near 25,000 acres of Pichincha Province. Some 8,000 acres are already under irrigation. The project will include a nearly 40-mile channel, 55 miles of secondary channels, and 44 miles of roadways.
- The Salinas Project, located in the Imbabura Province at altitudes ranging from 5,085 feet to 6,069 feet, envisions irrigation, drainage, and technical assistance to areas already under development.
- The Piquiucho Project, using an old channel abandoned 60 years ago, will irrigate 250 acres.

Among other major works undertaken by INERHI are construction of the Latacunga-Salcedo-Ambato water channel, as part of the Cotopaxi Project, started in July 1974. In addition the Milagro Project will irrigate 4,200 acres, and the Manuel J. Calle Project, 37,000 acres.

The ability of CEDEGE and INERHI to implement these projects has been questioned by some, owing to a scarcity of both qualified technical personnel and training programs to provide the needed personnel. Still, the projects will undoubtedly have an immense impact on the country's agriculture, and its economy as well. Carrying out the projects will be a major challenge for both organizations.

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PHILIPPINES UPS SUGAR OUTPUT, SIGNS CONTRACTS

Philippine production of centrifugal sugar has shown an increase in the first half of the 1975/76 sugar milling year[1] but new 5- year contracts with two U.S. refiners will provide guaranteed outlets for 1.15 million metric tons (raw value) a year.

The contracts have 5-year renewal clauses and are unique in that no middlemen are involved. They provide for the sale of 650,000 tons of raw sugar a year to one firm and 500,000 tons a year to the other.

Settlement price for the sugar will be based on the wholesale price received by the refiners at the time of sale. Appropriate deductions will be made to cover refining and marketing costs.

The refiners and the Philippine Government will share in the profit over and above the U.S. No. 12 contract price.[2] However, to initiate shipment of the raw sugar, the refiners must open letters of credit in favor of PHILEX, the Philippine export agency, for practically the full amount of the No. 12 contract price.

Reportedly, the Philippine Government will stand the loss if the U.S. No. 12 contract price falls substantially between the time of shipment and the time the refined product is sold at wholesale. Conversely, the Philippine Government will make a windfall profit if the U.S. No. 12 contract price increases after the raw sugar is shipped, as this would presumably be reflected in higher wholesale prices.

As of March 31, 1976, the Philippines had produced 2,271,840 short tons of centrifugal sugar, 26 percent more than the 1,793,438 tons produced during the same period of the 1974/75 sugar year.

Philippine sugar exports between September 1, 1975, and March 31, 1976, amounted to 356,628 short tons. Destinations and volumes were: The United States, 136,416 tons; Japan, 136,368 tons; Portugal, 14,550 tons; Iran, 14,551 tons; Romania, 22,668 tons; Morocco, 13,890 tons; the People's Republic of China (PRC), 12,125 tons; and the Soviet Union, 6,060 tons.

According to trade reports, sugar exports approved by PHILEX and shipped during March totaled 56,000 tons to the United States and 5,326 tons to Japan. The shipments to the Soviet Union and the PRC were also made in March.

April export bookings as of March 31, 1976, included, 92,175 tons to the United States, 95,920 tons to the Soviet Union, and 5,512 tons to Japan, for a total of 193,607 tons.

Despite the impetus the new contracts give to moving the large Philippine sugar stocks, the country's storage and handling problems will probably not be alleviated until well into the last quarter of 1976. The Philippines has been storing raw sugar in schoolhouses, public auditoriums, pelota courts, and even on public roads and terminal parking lots.

Even if the Philippines exports 1.3 million short tons of sugar this crop year—maximum volume possible in view of the physical limitations of port loading facilities—raw sugar stocks on August 31, 1976, will still amount to 1.5-1.6 milion tons. This assumes that the 1975/76 production will total 2.7-2.8 million short tons and domestic disappearance 85,000 tons a month.

Many Philippines sugar tradesmen believe that the 1975/76 sugar output will exceed 2.8 million tons by a substantial margin.

The Attaché estimated 1975/76 sugar production at 3 million short tons.

—Based on report from
Office of U.S. Agricultural Attaché
Manila

[1] **The Philippine sugar year is September 1-August 31.**

[2] **A No. 12 contract price is a domestic price based on the duty-paid price for raw sugar, basis New York, quoted by the New York Coffee and Sugar Exchange.**

U.S.-Polish Working Group

Continued from page 7

was held in Warsaw, April 28-30, 1975, the Poles have been providing periodic information bulletins containing various crop data, planting intentions, and some qualitative information regarding the status of various crops.

When the Polish side of the Working Group expressed its desire to receive a larger quota for exporting cheese to the United States it was explained that the governing U.S. statutory authority for import quotas on cheese—Section 22 of the Agricultural Adjustment Act—does not allow the USDA sufficient latitude to act immediately on such requests. The U.S. delegation suggested that the Poles explore the possibility of exporting non-quota cheese and noted that the issue of cheese quotas could be discussed during the multilateral trade negotations in Geneva.

—By ROBERT D. KNAPP, FAS

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